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## HELPING TO CONTROL FLOODS AT THEIR SOURCE - II.

A radio discussion among F. A. Silcox, Chief of Forest Service, Dillon S. Myer, Soil Conservation Service, and Milton S. Eisenhower, Director of Information, U. S. Department of Agriculture, broadcast Tuesday, February 23, 1937, in the Department of Agriculture period, National Farm and Home Hour, by 57 stations associated with the National Broadcasting Company.

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### SALISBURY:

We're returning today to the subject of land use in relation to flood control. Two of the three men who have been discussing this with us are here again -- Mr. F. A. Silcox, Chief of the Forest Service, and Mr. M. S. Eisenhower, Director of Information. Mr. Dillon Myer of the Soil Conservation Service will represent Mr. Bennett, Chief of that organization. Mr. Eisenhower will open today's discussion.

### EISENHOWER:

Thank you, Morse -- and hello, everyone.

I hope most of you were listening to the Farm and Home Hour two weeks ago when Mr. Bennett, Mr. Silcox, and I gave a few highlights on the contribution that proper land use and upstream engineering can make to flood prevention and control. You will recall that we said that proper land use can do five distinct things:

First, it can save the soil for farming, grazing, and forestry - and this is a major objective of conservation even aside from flood prevention and control;

Second, it can eliminate what would otherwise be recurring minor floods - high waters that do considerable damage;

Third, it can reduce the volume and speed of run-off and thus materially affect major floods;

Fourth, proper land use can greatly reduce the sedimentation of flood control and other reservoirs, and

Fifth, it can minimize the silting of stream channels.

In our discussion two weeks ago, we emphasized that on most of the critical watersheds of the nation proper land-use, upstream engineering, and engineering works in the main trunk streams must all fit into a common pattern if we are to get maximum safeguards against floods.

Now, today, Mr. Myer, Mr. Silcox, and I want to tell you briefly about the Department of Agriculture's responsibility in this whole matter

(over)

of flood prevention. I suppose the best place to start is with the Omnibus Flood Control Act which was passed by the Congress last year.

SILCOX:

If you'll pardon the interruption, Milton: I doubt if that's the place to begin. The Flood Control Act of 1936 certainly places a new and very great responsibility upon the Department, but the new job is an outgrowth of work that has been going on for many years.

EISENHOWER:

You're right, of course. Let's just summarize that very briefly, because I'm sure Farm and Home Hour listeners are familiar with the regular soil conservation and forestry programs. Mr. Myer, suppose you give us a thumb-nail sketch of the soil and water conservation program.

MYER:

All right -- and I'll make it short. At about 540 locations in the United States we are demonstrating on the farms of men cooperating with us, all the practices and devices the individual farmer may use to control erosion and slow up the run-off from his land.

EISENHOWER:

And, in cooperation with the State Extension Services, you are attempting to extend the adoption of these practices to most of the farms of the nation.

MYER:

Yes, but to introduce and maintain proper soil conservation practices on all farms, the operators should have the authority to organize themselves into legally constituted soil conservation associations under State laws. I doubt if we have time to go into that today.

EISENHOWER:

No, we haven't, but let's keep the soil conservation associations in mind because they are necessary in a flood prevention program.

Now, Sil, before we begin talking about the Department's job under the new Flood Control Act, we'd better get the background on the forestry program. As I recall it there are about 170,000,000 acres in national forests.

SILCOX:

Right. In addition many more millions of acres are earmarked for purchase and development as publicly owned forests. The Forest Service also cooperates with private land owners to help them use proper forest practices. Those practices will enable forest soils to store more water, just like soil conservation methods enable pasture and crop land to store more water.

EISENHOWER:

For an example, I'd like to be able to show listeners a small exhibit that I have in my office. It portrays a farm typical of the Iowa-Minnesota-Wisconsin region. Before any control work was done on that farm it was

losing 6,280 tons of soil each year and a high percentage of the annual rainfall ran off, first into gullies, then into a large ditch, and on into the stream.

Well, the owner of the land and a soils man, an agronomist, a forester and an engineer went to work. Following the plan laid out by the experts the farmer put in trees, strip cropped, added meadows and alfalfa, built a few terraces and check dams. He applied lime and fertilizer pretty generously. The result? Well, after he had done these things, the farm lost only 280 tons of soil per year. The amount of water that ran off was also tremendously reduced.

MYER:

I'm glad you told about that little exhibit, Milton. It gives me a chance to get something off my chest that I've been wanting to say for a long time. Solving the problem on that farm was not a forestry job, as such; it wasn't an engineering job as such; nor a soils program as such. The only way I know how to define it is this: It was all these things -- it was putting land to its right use. Some to trees, some to grass, and some to cultivated crops that were properly rotated, strip cropped, and contour furrowed.

SILCOX:

And see here, Milton and Dillon, if you will just enlarge that farm exhibit of yours to a whole watershed you have illustrated just what the Department's part in the work under the Omnibus Flood Control bill is all about.

EISENHOWER:

That's right, Sil. That Flood Control Act looks upon a watershed as a single unit of land.

SILCOX:

And it says to the Department, in effect: "Study each of these watersheds carefully. Find out just how the land is being used now and what all the consequences are."

Then the Act says to tell the Congress just what changes should be made in the watershed to get maximum land protection and control of water run-off.

MYER:

And these recommendations to the Congress would be based on a careful survey of what needs to be done upstream to supplement the downstream efforts of the engineers.

EISENHOWER:

I'd like to state the matter a little more formally. The Flood Control Act of 1936 sets up a new policy in flood control by establishing work on land and on the small streams as coordinate with work on the larger rivers. The War Department is assigned the job on rivers; the Department of Agriculture is assigned the job on land and small streams. This is the first time in our history that the concept of complete watershed and trunk-stream protection has been expressed in legislation.



For the time being, the Department of Agriculture is not authorized to begin actual control work on the watersheds specified in the Act. It is, however, authorized to survey those watersheds and report to Congress whether a complete control program would be feasible or not. This survey work will start as soon as funds are made available.

MYER:

That point certainly should be emphasized. Farmers in many parts of the country are writing in and saying that they are ready to organize and cooperate in a flood control program. We are now getting ready to make the surveys. Control work will follow.

SILCOX:

Another point in the Flood Control Act needs to be emphasized. The Act says that the Department should help improve the watersheds if the benefits are greater than the costs.

But that brings in the economic angle of watershed protection and upstream engineering. Sometime in the near future we must ask Doctor Black of the Bureau of Agricultural Economics to discuss that phase of the program with us.

EISENHOWER:

That's a good idea - we'll have to do it. Now, let's see if we can very quickly tell how the Department of Agriculture will carry on its work. The soil conservation specialists, the foresters, the economists, the soils specialists, the engineers and others will all work together with a common objective in mind. The watershed is the unit of study. What's their first step, Dillon?

MYER:

The first job is to make preliminary examinations of the watersheds mentioned in the Act. We already have considerable information on about 75 of these watersheds. Let's say that the funds to make the preliminary surveys become available in April of this year. We'd like to complete all the preliminary examinations before April, 1938. That's our goal.

EISENHOWER:

What's the next step, Sil?

SILCOX:

The preliminary examinations will enable us to assign priorities to the 222 watersheds. One group, for example, will be most critical and therefore first on the list. The next group will be somewhat less critical and be placed second on the list, and so on. We'll then start right in to make the detailed surveys of the watersheds in one, two, three order.

EISENHOWER:

In assigning priorities to the various watersheds, you'll take the War Department's part of the program into account, won't you?

SILCOX:

Yes, indeed, From top to bottom our work is going to be coordinated with that of the Army Engineers.

EISENHOWER:

Good. I know that's what everyone wants -- we want to see all folks who have a responsibility in this thing work shoulder to shoulder.

Finally, for today, let's see if we can't indicate very briefly just what the detailed surveys will cover. What about it, Dillon?

MYER:

They'll show the soil type, the present use of the land, type of vegetative cover, degree of slope, degree of erosion and rate of run-off, type of land ownership, size of farms, their average value and income. That's a long list already but it's only part of the story. I'll skip the rest except this: Each survey will result in the preparation of a report that will show the best possible method of flood prevention in the watershed, the cost of the work, and its probable benefits.

SILCOX:

And then the Department will send each report to Congress for its information and action.

EISENHOWER:

Now, to conclude for today: We've emphasized that effective flood prevention and control requires first of all that we tackle the problem on a watershed basis -- proper land use throughout the entire watershed. Secondly, that the foresters, soil conservation specialists, economists and others within the Department must pool their efforts and their knowledge in tackling the problems as a unit. Third, that our work on the land and in the small tributary streams must dovetail with the work of the War Department on rivers.

That, briefly, is the picture from the viewpoint of the Federal government. But everyone knows that flood prevention and control cannot become a reality in the United States unless the Federal government, the States, and the individual land owners and operators also get together and work on a common program.

SILCOX:

One hundred percent right, Milton. Every person, even the city man, has a very real place in this program. I suggest we come back here Thursday and make clear to Farm and Home listeners just how the States and individuals can fit into the picture.

MYER:

I second the motion. In many respects, that's the most important phase of this whole thing.

EISENHOWER:

The motion is unanimously carried. And there you are, Morse. You'll have us back on your hands again Thursday.

SALISBURY:

That's fine with me. I amend the motion by saying that you should keep after this until you've covered all the main angles. Everyone wants to know just what can be done to achieve flood prevention, how we can get there, and how fast. So Thursday, we'll hear from you on the question of State and individual participation in the work.

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